

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐		OTHER : _____					

Work Order ID 144141

April 05, 2016 11:12:25 AM

144141

Page 2

Item ID: D350-636-113 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Thru-Bolt Glacier Wearplates
Start Date: 4/5/2016 Start Qty: 2.00 ***2*** Cust Item ID:
Required Date: 4/13/2016 Req'd Qty: 2.00 ***2*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	Packaging	0.00							
130									
Packaging	Memo	0.00							
Packaging	Identify and pack for shipping as per PPP D350-636-113								
	Location: <u>SCH</u>								
140	QC21- Final Inspection - Work Order Release	0.00							
140									
QC	Memo	0.00							
Quality Control									

DAS
16
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16/04/15

SCH 20160414

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

Picklist Print

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Page 1
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Work Order ID: 144141

144141

Parent Item: D350-636-113

D350-636-113

Parent Item Name: Thru-Bolt Glacier Wearplates

Start Date: 4/5/2016

Required Date: 4/13/2016

Start Qty: 2.00

Required Qty: 2.00

Comments: IPP REV:A 14.11.13 DSI REVB DD VERF:JLM IPP
REV:B 15.06.05 as per ecn15-564/chg002 DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D4934-041		Manufactured	No				Each	0.0000	2	4			DAS 27 9-89
D4934-041									**	144143			
Blade Assembly													
D5146-041		Manufactured	No				Each	0.0000	2	4			DAS 27 9-89
D5146-041									**	144144			
Wearplate Assembly													
AN3C36A		Purchased	No				Each	304.0000	8	16			DAS 27 9-89
AN3C36A									**				
Bolt													DAS 27 9-89

Location	Loc Qty	Loc Code
FG	47	
101261	4	
122204	2	
m131367	1	
m132169	40	
FP001	80	
m131856	1	
m132381	79	
OVER002	135	
m132522	55	
m133916	80	
ST347	42	
131651	42	

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Work Order ID: 144141

144141

Parent Item: D350-636-113

D350-636-113

Parent Item Name: Thru-Bolt Glacier Wearplates

Start Date: 4/5/2016

Required Date: 4/13/2016

Start Qty: 2.00

Required Qty: 2.00

MS21043-3

Purchased

No

Each

1,241.000

16

MS21043-3

Nut

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Location

Loc Qty

Loc Code

FG	80	
103691	80	
FP001	11	
m130673	11	
GA	9	
m130673	9	
OVER007	800	
m133990	400	
m134502	400	
ST302	214	
m133577	214	
ST304	106	
m131340	106	
ST308	21	
m132551	21	

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Work Order ID: 144141

144141

Parent Item: D350-636-113

D350-636-113

Parent Item Name: Thru-Bolt Glacier Wearplates

Start Date: 4/5/2016

Required Date: 4/13/2016

Start Qty: 2.00

Required Qty: 2.00

NAS1149C0332R

Purchased

No

Each

4,261.000

32

NAS1149C0332R

WASHER

APR 14 2016

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28
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Location

Loc Qty

Loc Code

FP001

2384

m132262

4

m132930

1004

m134063

1248

m134073

128

GA

122

m133284

122

ST266

1755

m133284

255

m134474

500

m134574

1000

32

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NAS
27
9-89

DART SERVICE INSTRUCTION

TO AMEND INSTALLATION INSTRUCTIONS IIN-D350-636 REV. J
AND INSTRUCTIONS FOR CONTINUING AIRWORTHINESS ICA-D350-636 REV. 3
REF. FAA STC: SR00646SE
REF. CANADIAN STC: SH99-7
REF. EASA STC: 10033942

1.0 PURPOSE

The purpose of this service instruction is to introduce the D350-636-111/-113 Wearplate Kits.

The D350-636-111 Wearplate Kit replaces elements of the D350-636-011/-012/-013/-014 Skidtubes and elements of the D350-636-041/-043/-045 Wearshoe Kit and is designed to improve grip on low friction surfaces such as ice. The components in the D350-636-111 Wearplate Kit are defined in the parts list in Section 2.0.

The D350-636-113 Wearplate Kit replaces elements of the D350-636-015/-016/-017/-018 Skidtubes and elements of the D350-636-047 Wearplate Kit and is designed to improve grip on low friction surfaces such as ice. The components of the D350-636-113 Wearplate Kit are defined in the parts list in Section 2.0

2.0 PARTS LIST

QTY -111	QTY -113	Part Number	Description
X		D350-636-111	WEARPLATE KIT
	X	D350-636-113	WEARPLATE KIT
4		D4923-041	WEARPLATE ASSY
2		D4933-041	WEARPLATE ASSY
2	2	D4934-041	BLADE ASSY
	2	D5146-041	WEARPLATE ASSY
24		AN3C5A	BOLT
	8	AN3C36A	BOLT
	8	MS21043-3	NUT
24	16	NAS1149C0332R	WASHER (AN960C10)

20160405
SA 149141

B	ADD D350-636-113 WEARPLATE KIT	DB	14.08.21
A	NEW ISSUE	DB	13.09.11
REV.	DESCRIPTION	BY	DATE
DESIGN	DB	DART AEROSPACE USA, INC. KENT, WA	
DRAWN	DB		
CHECKED	<i>MKa</i>	DRAWING NO.	REV. B
MFG. APPR.	N/A	WEARPLATE INSTALLATION SHEET 1 OF 4	
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	DSI 9662	NTS
DATE	14.08.21	COPYRIGHT © 2013 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

3.0 WEIGHT AND BALANCE

The following are the net weight increases associated with the D350-636-111 and D350-636-113 Kits.

Installation	Weight	LONGITUDINAL		LATERAL (STD GEAR)		LATERAL (HIGH GEAR)	
		Arm	Moment	Arm	Moment	Arm	Moment
*D350-636-111 WEARPLATE KIT	3.82 lb 1.74 kg	132.1 in 3.4 m	504.6 in-lb 5.9 m-kg	0	0	0	0
**D350-636-113 WEARPLATE KIT	1.8 lb 3.96 kg	123.2 in 3.15 m	221.8 in-lb 12.5 m-kg	0	0	0	0

* Weight added to relevant skidtube installation when D350-636-111 Wearplate Kit is installed as replacement on D350-636-011/-012/-013/-014 Skidtubes.

**Weight added to relevant skidtube installation when D350-636-113 Wearplate Kit is installed as replacement on D350-636-015/-016/-017/-018 Skidtubes.

4.0 INSTALLATION OF D350-636-111 WEARPLATE KIT

- 4.1 Refer to Figure 1 on sheet 3 of this Service Instruction. Remove and retain the components indicated per ICA-D350-636, Sections 32.3 and 32.4. Ensure the AN8 fasteners are serviceable.
- 4.2 Inspect skidtube per ICA-D350-636.
- 4.3 Refer to Figure 2 on sheet 3 of this service instruction. Install the D4934-041 Blade Assy. Torque the AN8C21A bolts to 480-690 in-lbs (54.2-78.0 N-m).
- 4.4 Refer to Figure 2 on sheet 3. Install the D4923-041 Wearplate Assy and the D4933-041 Wearplate Assy as shown. Torque the AN3C5A bolts to 15-25 in-lbs (1.7-2.8 N-m).
- 4.5 Repeat this procedure for the other Skidtube.
- 4.6 Adjust Weight and Balance per Section 3.0 of this Service Instruction.

DESIGN	DB	DART AEROSPACE USA, INC. KENT, WA	
DRAWN	DB		
CHECKED	<i>MR</i>	DRAWING NO.	REV. B
MFG. APPR.	N/A	WEARPLATE INSTALLATION SHEET 2 OF 4	
APPROVED	<i>WJ</i>	TITLE	SCALE
DE APPR.	<i>WJ</i>	DSI 9662	NTS
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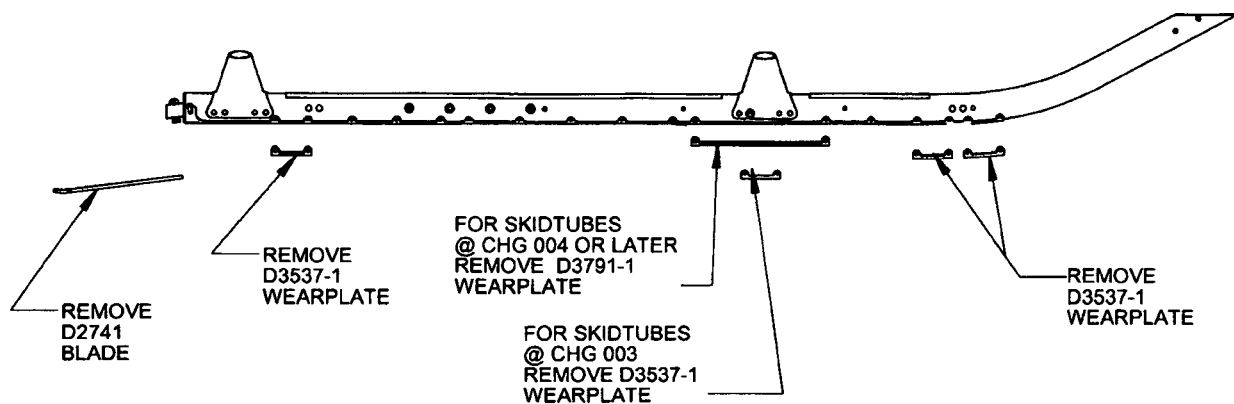


FIGURE 1: BLADE/WEARPLATE REMOVAL

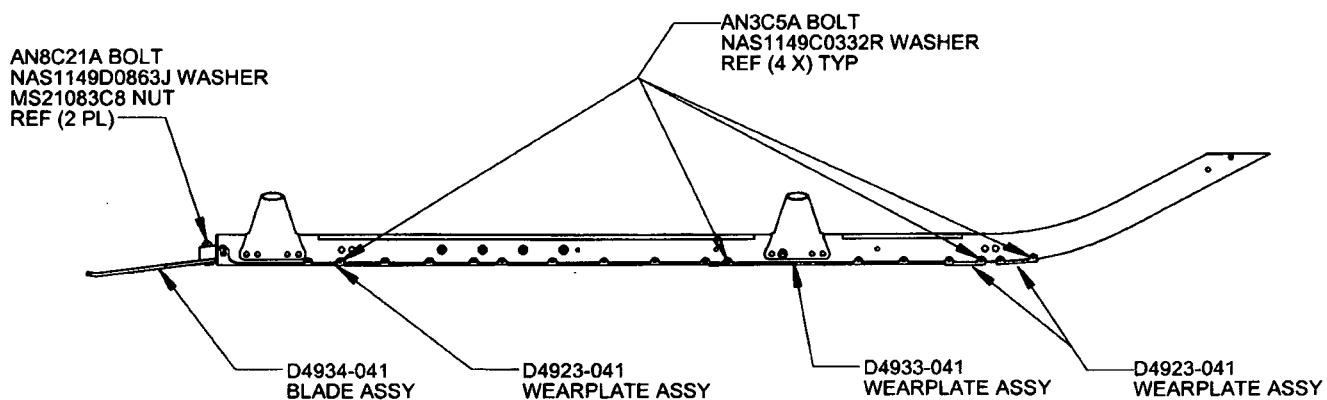


FIGURE 2: D350-636-111 WEARPLATE INSTALLATION

NOTE: THE 2 x D4923-041 WEARPLATES CAN BE INSTALLED IN ANY 2 OF THE 3 LOCATIONS INDICATED IN FIGURE 2 ABOVE. A PARTIAL INSTALL OF THE COMPONENTS PROVIDED IN THE D350-636-111 KIT IS ACCEPTABLE AS LONG AS THE INSTALLATION IS THE SAME ON BOTH SKIDTUBES.

DESIGN	DB	DART AEROSPACE USA, INC. KENT, WA	
DRAWN	DB		
CHECKED	<i>ML</i>	DRAWING NO.	REV. B
MFG. APPR.	N/A	WEARPLATE INSTALLATION SHEET 3 OF 4	
APPROVED	<i>SA</i>	TITLE	SCALE
DE APPR.	<i>SA</i>	DSI 9662	NTS
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5.0 INSTALLATION OF D350-636-113 WEARPLATE KIT

- 5.1 Refer to Figure 3 below. Remove and retain the components indicated per ICA-D350-636, Sections 32.3 and 32.4. Ensure the AN8 fasteners are serviceable.
- 5.2 Inspect skidtube per ICA-D350-636.
- 5.3 Refer to Figure 4 below. Install the D4934-041 Blade Assy. Torque the AN8C21A bolts to 480-690 in-lbs (54.2-78.0 N-m).
- 5.4 Refer to Figure 4 below. Install the D5146-041 Wearplate Assy as shown. Torque the AN3C36A bolts to 15-25 in-lbs (1.7-2.8 N-m). Torque the AN8C35A bolt to 480-690 in-lbs (54.2-78.0 N-m).
- 5.5 Repeat this procedure for the other skidtube.
- 5.6 Adjust Weight and Balance per Section 3.0.

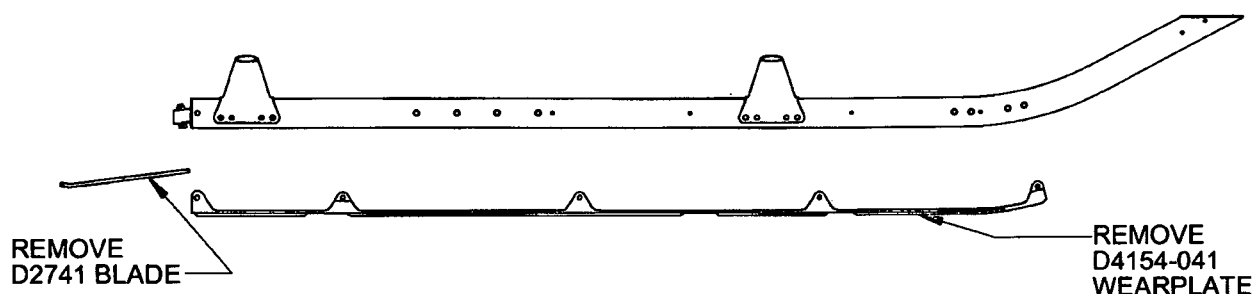


FIGURE 3: BLADE/WEARPLATE REMOVAL
(RETAIN FASTENERS)

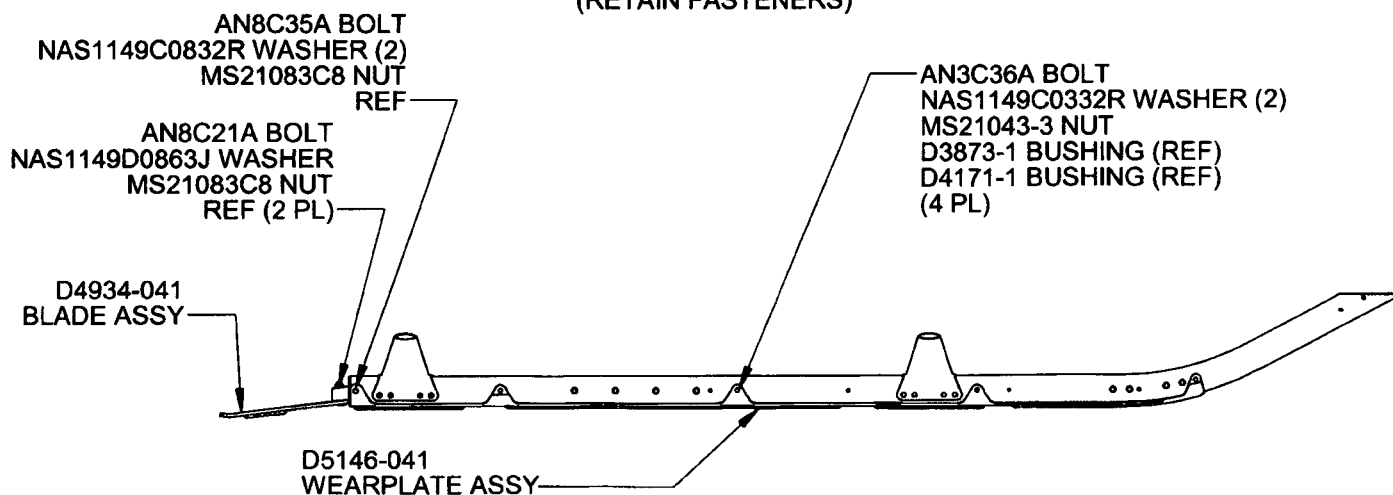


FIGURE 4: D350-636-113 WEARPLATE INSTALLATION

DESIGN	DB	DART AEROSPACE USA, INC.	
DRAWN	DB	KENT, WA	
CHECKED	<i>mLee</i>	DRAWING NO.	REV. B
MFG. APPR.	N/A	WEARPLATE INSTALLATION	
APPROVED	<i>[Signature]</i>	SHEET 4 OF 4	
DE APPR.	<i>[Signature]</i>	TITLE	SCALE
DATE	14.08.21	DSI 9662	NTS
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REFERENCE ONLY

DAS
28
9-89

DART SERVICE INSTRUCTION

TO AMEND INSTALLATION INSTRUCTIONS IIN-D350-636 REV. J
AND INSTRUCTIONS FOR CONTINUING AIRWORTHINESS ICA-D350-636 REV. 3
REF. FAA STC: SR00646SE
REF. CANADIAN STC: SH99-7
REF. EASA STC: 10033942

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24	16	NAS1149C0332R	WASHER (AN960C10)

B	ADD D350-636-113 WEARPLATE KIT	DB	14.08.21
A	NEW ISSUE	DB	13.09.11
REV.	DESCRIPTION	BY	DATE
DESIGN	DB	DART AEROSPACE USA, INC. KENT, WA	
DRAWN	DB		
CHECKED	<i>MKa</i>	DRAWING NO.	REV. B
MFG. APPR.	N/A	WEARPLATE INSTALLATION	SHEET 1 OF 4
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	DSI 9662	NTS
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